CLAIMS:

1.   A method of interactively visualizing a three-dimensional data set of an object of interest, wherein the method allows for an interactive input, the method comprising the step of: varying a rendering method in an image during the interactive input; wherein the variation of the rendering method causes a non-uniform quality of the image; and wherein the image is determined on the basis of the three-dimensional data set.

2.   The method according to claim 1, wherein, if there is an interactive input, the image is rendered with the varying rendering method in a pre-scan mode; and wherein, if there is no interactive input, the image is re-rendered with a constant rendering method in a full-scan mode, resulting in a maximum quality of the whole image.

3.   The method according to claim 2, wherein the variation of the rendering method comprises a variation of a sampling rate in the image during the interactive input; and wherein the variation of the sampling rate causes a non-uniform resolution of the image.

4.   The method according to claim 1, wherein the variation of the rendering method is performed on the basis of information acquired during rendering; and wherein the information comprises information concerning the interactive input.

5.   The method according to claim 3, wherein the sampling rate comprises a first sampling rate and a second sampling rate; wherein a focus area defines a first area in the image; wherein the first area is sampled with the first sampling rate; and wherein a second area in the image is sampled with the second sampling rate.

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6.   The method according to claim 5, wherein a relative position of the focus area is movable with respect to the image by one of a user and an automatism based on information acquired during rendering.

5 7.   The method according to claim 4, wherein the information comprises information selected from the group consisting of an estimation of a complexity of the data set, an availability of hardware resources, and an update speed required from a user.

10 8.   The method according to claim 1, wherein the rendering includes a ray casting.

9.   The method according to claim 8, wherein the variation of the sampling rate is performed along a ray applied in the ray casting.

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10.   A data processing device, comprising: a memory for storing a three-dimensional data set of an object of interest; a data processor for performing an interactive visualization of the three-dimensional data set, wherein the interactive visualization allows for an interactive input, wherein the data processor is adapted for

20 performing the following operation: loading the three-dimensional data set; varying a rendering method in an image during the interactive input; wherein the variation of the rendering method causes a non-uniform resolution of the image; and wherein the image is determined on the basis of the three-dimensional data set.

25 11.   Data processing device according to claim 10, wherein, if there is an interactive input, the three-dimensional data set is rendered with the varying rendering method in a pre-scan mode; and wherein, if there is no interactive input, the three-dimensional data set is re-rendered with a full rendering method in a full-scan mode, resulting in a maximum resolution of the whole image; and wherein the variation of the

30 rendering method is performed on the basis of information acquired during rendering; and wherein the information comprises information concerning the interactive input.

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12.   A scanner system, comprising: a memory for storing a three-dimensional data set of an object of interest; a data processor for performing an interactive visualization of the three-dimensional data set, wherein the interactive visualization

5   allows for an interactive input, wherein the data processor is adapted for performing the following operation: loading the three-dimensional data set; varying a rendering method in an image during the interactive input; wherein the variation of the rendering method causes a non-uniform quality of the image; and wherein the image is determined on the basis of the three-dimensional data set.

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13.   A scanner system according to claim 12, wherein the scanner system is one of a CT scanner system and a MR scanner system.

14.   A computer program product for performing an interactive visualization

15   of a three-dimensional data set of an object of interest, wherein the interactive visualization allows for an interactive input, wherein the computer program product causes a data processor to perform the following operation when the computer program is executed on the data processor: loading the three-dimensional data set; varying a rendering method in an image during the interactive input; wherein the variation of the

20   rendering method causes a non-uniform quality of the image; and wherein the image is determined on the basis of the three-dimensional data set.

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